Sailor Assignment Matchmaker (SAM)

6.2 ONR-funded M&P Research
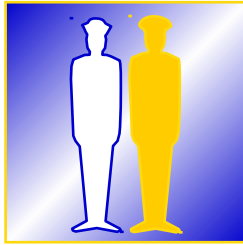
Ricky Hall, PERS-12

**Capable Manpower Future Naval Capability
Science and Technology In-progress Review**

11-12 March 2003

Sailor/Marine Career Management System
S&T Support to Sea Warrior

Sailor/Marine

Command

Policy Admin

Web-Based Marketplace (WBM)

Career Case Manager Technologies (CCM)

Distribution Incentive System (DIS)

Sailor Assignment Matchmaker (SAM)

Cognitive Agent Technologies

	6.2
	6.3

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Main Idea:
Sailor Assignment Matchmaker

As an aid to Sailors in making informed decisions, the Sailor Assignment Matchmaker will be a decision support algorithm by which a Sailor can compare alternative assignment choices, according to attributes of the assignments that are important to him.
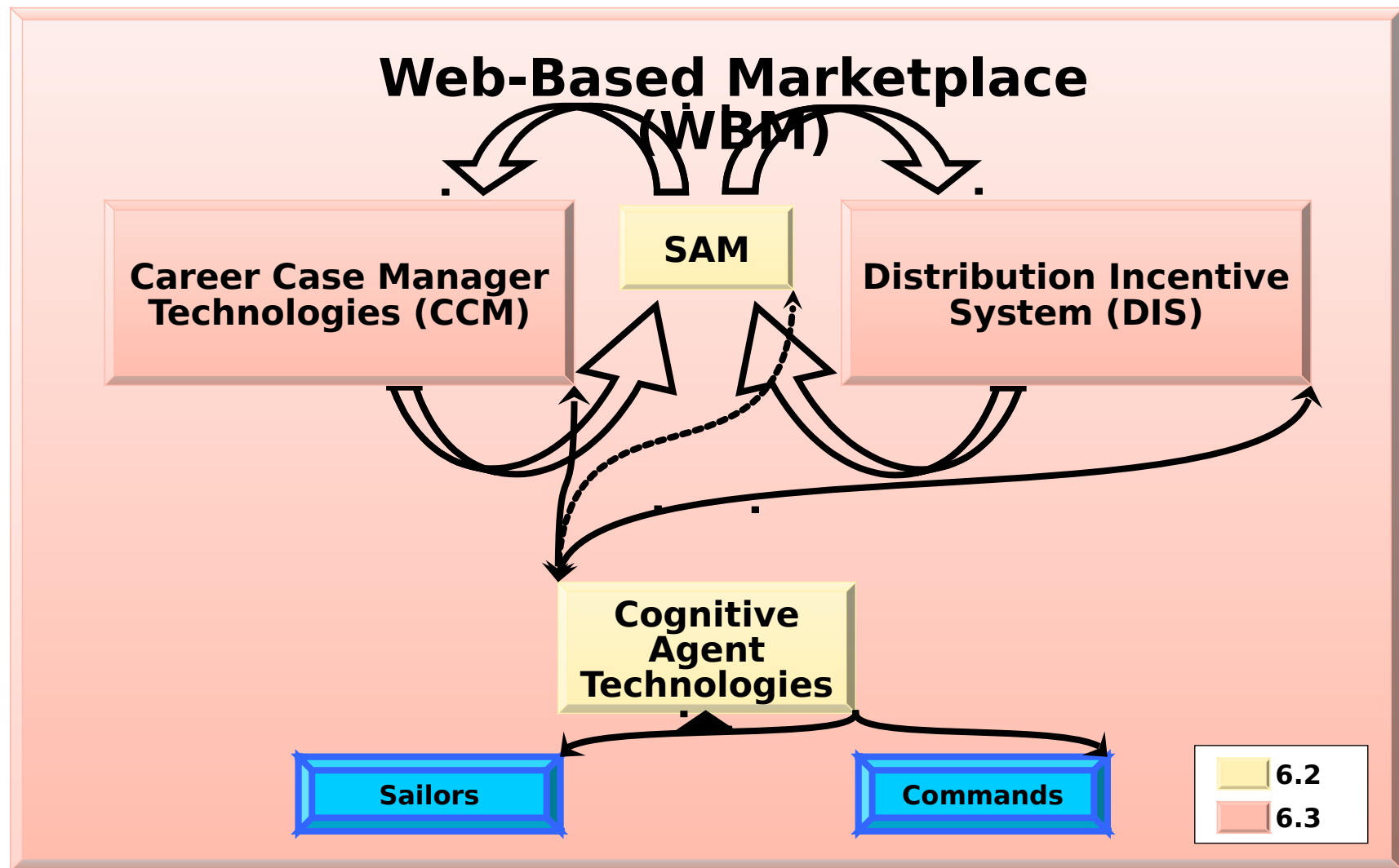
Inputs:

- Sailor Preferences
- Job/Location Data

Output:

- Sailor Assignment Decision Support

Web-Based Marketplace (WBM)

Career Case Manager Technologies (CCM)

SAM

Distribution Incentive System (DIS)

Cognitive Agent Technologies

Sailors

Commands

	6.2
	6.3

Data Swap/Exchange **Data Transfer/Communication** **SAM DS Algorithm Outputs**

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The Research Problem & Situation: Sailor Assignment Matchmaker

- **No consolidated and reliable database containing specialized information about Navy base locations, Navy jobs, and career progression**
    - **Some legacy databases– numerous and often disparate**
    - **Internet**
        - **Time-consuming searches**
        - **Connectivity issues**

- **Today, Sailors rely on other's past experience, rumor, conjecture, and time-consuming Web searches**
    - **Conflicting "expert" opinions**
    - **Numerous data sources**

The Research Problem & Situation: Sailor Assignment Matchmaker

(continued)

- **Sailors have no automated, reliable, and easy way to compare future assignments over various meaningful "assignment attributes"**

  - *Job Attributes*

  - *Activity/Location Attributes*

  - *Incentive Attributes*

- **Resulting assignment process does not allow Sailors to make informed decisions**

  - **Creates unreal and uncertain expectations**

  - **Negatively impacts morale and overall Sailor satisfaction**

  - **Ultimately affects Navy readiness**

Gaps in S&T:
Sailor Assignment Matchmaker

- **Existent gap in science**

  - **No known methodology or algorithm currently being used to measure assignment attribute utility in career planning**

  - ***Why the gap?***
    - **Little need in the civilian world**
      - **Few organizations that move their employees as Navy does**
      - **These are mid- and upper management**

  - ***How is Navy different?***
    - **Frequent changes in residence**
    - **Specifically defined requisitions**
    - **Specifically identified Sailors**

Technical Objectives and Approach: Sailor Assignment Matchmaker

Main Objective:

- **Develop a decision support tool for a Sailor to use at any point in the assignment process to compare various assignment options based on the aspects, or attributes, of the assignment that are most important to him**

Hypothesis:

- **Propose that Sailor assignment options can be compared objectively by assigning to them scores based upon Sailor preference utility functions derived from multi-criteria decision analysis (MCDA) methods.**

Technical Objectives and Approach: Sailor Assignment Matchmaker

(continued)

- **Gain understanding of problem**

    - **Conduct literature review**

    - **Consult with management science experts**

- **Determine "key factors" in Sailors' assignment decisions.**

    - **Focus groups with Sailors**

- **Deliver "best" approach and supporting algorithm(s)**

    - **Command and job profiles database.**

    - **Code MCDA methods - field test**

    - **Use feedback from field tests to determine best approach**

    - **Revise and re-test until end-user requirements are met**

Technologies to be Delivered: Sailor Assignment Matchmaker

- User-friendly decision support tool/algorithm that helps Sailors to make "informed" assignment decisions based upon aspects of the assignment that he has indicated are important to him.

  - Database structure

  - Web-friendly algorithm, seamlessly embedded into SCMS

  - Easy to use

  - Allows "window-shopping" for jobs

  - Outputs could be used in research or by DIS to help manage incentives